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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,297	07/11/2003	Fan Wang	P/4076-56	4357
2352	7590	09/08/2005	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			LEE, PATRICK J	
			ART UNIT	PAPER NUMBER
			2878	
DATE MAILED: 09/08/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<i>Office Action Summary</i>	Application No.	Applicant(s)
	10/618,297	WANG ET AL.
Examiner	Art Unit	
Patrick J. Lee	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 17 August 2005.

2a)  This action is FINAL.                    2b)  This action is non-final.

.3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 2-5,7-9,12-16,20,21,25-30,32,34,35,37,38 and 40-54 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 2-5,7-9,12-16,20,21,25-30,32,34,35,37,38 and 40-54 is/are rejected.

7)  Claim(s) 43 and 44 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 11 July 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. This action is in response to amendment filed August 17<sup>th</sup>, 2005.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the power sensor as stated in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claims 43-44 are objected to because of the following informalities: Claims 43-44 are objected to as the preambles of the claims are inconsistent with other claims dependent on claim 40. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2-5, 7-9, 12-16, 20-21, 25-30, 32, 34-35, 37-38, and 40-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,153,887 to Furuta.

With respect to claim 40, Furuta discloses a material detector comprising: transport arm (12) as a collet operable to pick up attraction object (11) as a target object via the use of a vacuum source and to move the attraction object (11) to another

location; light emitting element (14) as a source of light for illumination; and a light sensing element (15) as a light detector receiving light. Furuta illustrates light emitting element (14) and light sensing element (15) to move with transport arm (12). Furuta illustrates the light going through attraction object (11) and being reflected by a reflective element (17). However, to modify the teachings of Furuta accordingly such that the attraction object (11) reflected the light would have been obvious to one of ordinary skill in the art because this would allow the device taught by Furuta to be applicable to opaque objects.

With respect to claim 2, the modified Furuta discloses transport arm (12) to have a holding site to hold attraction object (11) at a predetermined orientation such that illumination from light emitting element is substantially normal (see figure 4).

With respect to claims 3-4, the modified Furuta does not explicitly disclose the use of a beam splitter, but such would have been obvious to one of ordinary skill in the art to incorporate the use of a beam splitter to allow the light emitted to be normal to the plane of the object.

With respect to claim 5, the modified Furuta does not explicitly disclose the use of an image sensor, but such would be obvious to one of ordinary skill in the art to give the device the ability to discriminate between different objects.

With respect to claim 7, the modified Furuta suggests that rays of light be emitted, but does not specify visible radiation. However, it would be obvious to utilize visible radiation based on its low cost and ease of use.

With respect to claim 8, the modified Furuta does not explicitly disclose the use of a lens element, but such would be obvious to one of ordinary skill in the art because a lens would allow clarity in the illumination beam and allow for accurate measurements.

With respect to claim 9, the modified Furuta does not disclose the beam as such, but such would have been obvious to one of ordinary skill in the art to allow accurate detection of the object.

With respect to claim 12, the modified Furuta discloses the attraction object (11) to be substantially transparent.

With respect to claims 13-14, the modified Furuta does not explicitly disclose the refractive index of the target to be as such, but such would be obvious to one of ordinary skill in the art in order to allow for distinguishing of the attraction object (11).

With respect to claims 15-16, the modified Furuta does not explicitly disclose the remote location of the light source and detector, but such would have allowed for the protection of the devices from potentially harsh conditions and the increased operating life of the devices.

With respect to claim 37, the modified Furuta discloses light source (14) and light detector (15) to move in tandem with transport arm (12).

With respect to claim 38, the modified Furuta discloses light source (14) and light detector (15) to be integral with the transport arm (12).

With respect to claims 41-42, the modified Furuta does not explicitly disclose the use of a third location with a dark background to perform the detection of the presence,

but such would have been obvious to one of ordinary skill in the art to separate production processes from quality control processes.

With respect to claims 43-44, the transport arm (12) inherently has a mechanism to move the transport arm (12) from location to location.

With respect to claim 45, Furuta discloses a material detector comprising: transport arm (12) as a collet operable to pick up attraction object (11) as a target object via the use of a vacuum source and to move the attraction object (11) to another location; light emitting element (14) as a source of light for illumination; and a light sensing element (15) as a light detector receiving light. Furuta discloses: light emitting element for performing the step of illuminating a portion of holding sight; arranging light detector (15) to receive reflected light; and suggests the use of a processor to receive the output and to make a determination. Furuta illustrates light emitting element (14) and light sensing element (15) to move with transport arm (12). Furuta illustrates the light going through attraction object (11) and being reflected by a reflective element (17). However, to modify the teachings of Furuta accordingly such that the attraction object (11) reflected the light would have been obvious to one of ordinary skill in the art because this would allow the device taught by Furuta to be applicable to opaque objects.

With respect to claims 20-21, the modified Furuta does not explicitly disclose the use of a beam splitter, but such would have been obvious to one of ordinary skill in the art to incorporate the use of a beam splitter to allow the light emitted to be normal to the plane of the object.

With respect to claim 25, the modified Furuta does not explicitly disclose the use of a lens element, but such would be obvious to one of ordinary skill in the art because a lens would allow clarity in the illumination beam and allow for accurate measurements.

With respect to claim 26, the modified Furuta does not disclose the beam as such, but such would have been obvious to one of ordinary skill in the art to allow accurate detection of the object.

With respect to claims 27 & 32, the modified Furuta does not explicitly disclose the use of a third location with a dark background to perform the detection of the presence, but such would have been obvious to one of ordinary skill in the art to separate production processes from quality control processes.

With respect to claim 28, the modified Furuta discloses the attraction object (11) to be substantially transparent.

With respect to claims 29-30, the modified Furuta does not explicitly disclose the refractive index of the target to be as such, but such would be obvious to one of ordinary skill in the art in order to allow for distinguishing of the attraction object (11).

With respect to claim 34, the modified Furuta discloses light source (14) and light detector (15) to move in tandem with transport arm (12).

With respect to claim 35, the modified Furuta discloses light source (14) and light detector (15) to be integral with the transport arm (12).

With respect to claim 46, the modified Furuta discloses transport arm (12) to have a holding site to hold attraction object (11) at a predetermined orientation such that illumination from light emitting element is substantially normal (see figure 4).

With respect to claim 47, Furuta discloses a material detector comprising: transport arm (12) as a collet operable to pick up attraction object (11) as a target object via the use of a vacuum source and to move the attraction object (11) to another location; light emitting element (14) as a source of light for illumination; and a light sensing element (15) as a light detector receiving light. Furuta discloses: light emitting element for performing the step of illuminating a portion of holding sight; arranging light detector (15) to receive reflected light; and suggests the use of a processor to receive the output and to make a determination. Furuta illustrates light emitting element (14) and light sensing element (15) to move with transport arm (12). Furuta illustrates the light going through attraction object (11) and being reflected by a reflective element (17). However, to modify the teachings of Furuta accordingly such that the attraction object (11) reflected the light would have been obvious to one of ordinary skill in the art because this would allow the device taught by Furuta to be applicable to opaque objects.

With respect to claim 48, the use of a reference value to determine presence or absence is not explicitly disclosed, but such would have constituted an inherent portion of the operation of detector as there would be certain output signals from detector (15) that would represent the presence of object (11), while there would be other signals that would represent the absence of object (11).

With respect to claims 49-51, the modified Furuta does not explicitly recite such operation steps, but such would have been obvious to one of ordinary skill as being routine processing steps to make accommodations for objects in different stages of the manufacturing process.

With respect to claims 52-54, the modified Furuta does not explicitly disclose the use of a third location with a dark background to perform the detection of the presence, but such would have been obvious to one of ordinary skill in the art to separate production processes from quality control processes.

***Response to Arguments***

7. Applicant's arguments with respect to claims 2-5, 7-9, 12-16, 20-21, 25-30, 32, 34-35, 37-38, and 40-54 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (571) 272-2440. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J. Lee  
Examiner  
Art Unit 2878

PJL  
August 31<sup>st</sup>, 2005



Stephonie B. Allen  
Primary Examiner